IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket: CY-0025

In re application of: **RAMKUMAR, Krishnaswamy**

Serial No.: **10/054,515** Group No.: **2829**

Filed: **October 22, 2001** Examiner: **Kilday, L.**

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION UNDER 37 C.F.R. §1.144 FROM REQUIREMENT FOR RESTRICTION

Certificate of Mailing/Transmission (37 C.F.R. 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

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Date: July 22, 2003 Signature: _____

Typed/Printed Name: Bradley T. Sako

Requirements For Petition Met (37 C.F.R. §1.144)

This is a petition from an election of species restriction requirement. The requirement was initially traversed by Petitioner, thus right of petition is established.[1] The restriction requirement was been made final, and Petitioner requested reconsideration of the restriction requirement.[2] The request for reconsideration was considered, but the restriction was deemed proper and final by the Examiner.[3] This petition is being filed prior to any appeal for this case.

Petition Items (37 C.F.R. §1.181)

This petition contains the following items in the order set forth below.

I. Statement of the Facts

II. Points to be Reviewed

III. Action Requested

IV. Memorandum in Support of Petition

I. Statement of Facts

A. This application is subject to an election of species restriction requirement that has grouped Petitioner's invention into three alleged species shown below[4].

1. Species I depicted in Figures 1 and 2.
2. Species II depicted in Figures 3 and 4.
3. Species III depicted in Figures 7 and 8.

B. In response to the election of species requirement, Petitioner provisionally elected Species I and claims 1-7 and 12-20 as readable on Species I.

C. Petitioner's election was not followed, and examination was restricted to claims 1-6, instead of claims 1-7 and 12-20.

D. In a Final Office Action, claims 1-6 were finally rejected. No examination on the merits was undertaken for claims 7 and 12-20.

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[1] See Petitioners' Response to Office Action, dated 9/26/02, Page 1.
[2] See Petitioners' Response to Office Action, dated 2/4/03, Page 2.
[3] See the Final Office Action, dated 5/8/03, Page 2.
[4] *Ibid.*, Page 2.

II. Points To Be Reviewed

A. Has the necessary burden of prosecution been met to establish the election of species requirement?

B. Are claims 7 and 12-20 readable on the alleged Species I?

C. If claims 7 and 12-20 are readable on alleged Species I, was it improper to withdraw these claims from examination on the merits.

III. Action Requested

Petitioner requests that the requirement for restriction be withdrawn and/or claims 7 and 12-20 be reinstated for examination on the merits.

IV. MEMORANDUM IN SUPPORT OF PETITION

A. Background of the Petition

This petition arises out of an election of species restriction requirement. The original restriction requirement organized Petitioner's invention into two proposed species according to figure number and claims number. No reasons for restriction were included in this initial restriction requirement. Petitioner provisionally elected one group of figures, and traversed the restriction requirement. Further, Petitioner indicate that claims 1-7 and 12-20 were readable on the elected Species.[5]

The restriction requirement was made final in a second office action issued on the merits. The restriction requirement was sustained by the Examiner, and examination was restricted to claims 1-6, claims 7-20 being withdrawn from examination.[6]

Petitioner requested reconsideration of the restriction requirement in a response to the second office action.[7]

The request for reconsideration was considered by the Examiner, but the restriction requirement was deemed proper by the Examiner.[8]

B. Discussion of Authority

1. Burden of Prosecution for Election of Species Requirement

The burden of prosecution for all actions affecting claims finds its basis in the Patent Laws, which recite:

> Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Director shall notify the petitioner thereof, stating the reasons for such rejection, or objection or requirement, together with such

[5] See Petitioners' Response to Office Action, dated 12/27/2001, Page 3, Lines 15-16.
[6] See the Office Action, dated 11/6/02, Office Action Summary on Page 1.
[7] See Petitioner's Response to Office Action, dated 2/4/2003, Page 3, Line 1 to Page 8, Line 15.
[8] See the Final Office Action, dated 5/8/03, Page 2, Lines 1-13.

information and references as may be useful in judging of the propriety of continuing the prosecution of his application...[9]

An election of species is a requirement for an applicant to restrict claims to a particular species. Accordingly, a restriction requirement forcing an election of species is subject to the burden of prosecution. This burden of prosecution for an election or species is clearly repeated in the MPEP.

Definition of Restriction

Restriction, a generic term, includes... the practice relating to... election of species.[10]

Restriction – When Proper

GUIDELINES

Examiners must provide reasons and/or examples to support conclusions, but need not cite documents to support the restriction requirement in most cases.[11]

2. Election of Species Procedure.

a. The *Examiner* Identifies Species

Administrative procedures for imposing an election of species requirement on a patent application are set forth in MPEP 809.02(a). This section makes clear that an election of species requirement should include the following.

1) Clearly identify each disclosed species to which claims are restricted.

2) Preferably such identification is by figure or example number.

3) Identification by claim number should only be used if the species cannot be conveniently identified.

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[9] 35 U.S.C. § 132.
[10] MPEP §802.02.
[11] MPEP §803 (emphasis added).

From the above, it is clear that identification of different species by claim groupings is utilized only as a last resort. This is well settled as the MPEP recognizes that claims are definitions of inventions, claims are never species. Species are always the specifically different embodiments.[12]

b. The *Applicant(s)* Identifies the Claims Readable on the Elected Species – Not the Examiner

Once species are identified by the Examiner, and a species is elected by the Applicant(s), it is the Applicant(s) who selects which claims are readable on the elected species, not the Examiner.

> In order to be complete, **a reply** to an election of species requirement should include an election along with a listing of claims readable thereon.[13]
>
> **Applicant** is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, **and a listing of all claims readable thereon**, including any claims subsequently added.[14]

C. Argument in Support of Petition

1. Burden of Prosecution Has Not Been Met

The restriction requirement from which relief is being sought is based on four grounds[15]. Petitioner submits that these grounds are not sufficient to meet the burden of prosecution, as they are based on an improper reading of Petitioner's Specification and/or contradict the express teachings of Petitioner's Specification. Each of the above reasons for maintaining the

[12] MPEP §806.04(e), emphasis added.
[13] MPEP §809.02(a), emphasis added.
[14] *Ibid.*, emphasis added.
[15] See the Final Office Action, dated 5/8/03, Page 2, Lines 5-16.

election of species requirement will be addressed below, and shown to be an improper basis for restriction.

Reason 1: Petitioner's specification on pages 1 and 7-8 distinguishes three type of insulated gate field effect transistor (IGFET) devices and three type of method to make the distinct IGFETs.

First, it is noted that reference to page 1 of Petitioner's specification is misplaced. Page 1 of the Specification is directed to the Background of the Invention, and hence cannot show a species of Petitioner's invention.

Second, the reference to Pages 7-8 is not understood. Petitioner has reviewed these pages and does not understand where/how the pages describe three different IGFETs or methods of manufacturing three different IGFETs.

Reason 2: Species I is drawn to a method of making an EEPROM, and is illustrated in Figures 1 and 2.

This reasoning is erroneous and/or is based on an improper reading of Petitioner's Specification.

First, Petitioner's Specification describes Figures 1 and 2 as follows:

> FIG. 1 is a block diagram showing a method of manufacturing a nonvolatile semiconductor device. FIGS. 2A to 2C are views showing the method of FIG. 1.[16]

Thus, Petitioner has clearly identified Figures 1 and 2 as being directed to a nonvolatile semiconductor device. While Petitioner readily admits that an EEPROM is one type of nonvolatile semiconductor device, the Specification never limits the embodiment described to such a narrow subset of possible nonvolatile semiconductor devices.

[16] Petitioner's Specification, Page 8, Lines 7-9, emphasis added.

Second, Petitioner's written description of the embodiment shown in FIGS. 1 and 2A-2C never mentions an EEPROM.[17] Because the description of the first embodiment never mentions an "EEPROM" the first embodiment cannot be restricted to an EEPROM.

Reason 3: Species II is drawn to a method of a making a MNOS device, and is illustrated is Figures 3 and 4.

This reasoning is erroneous and/or is based on an improper reading of Petitioner's Specification.

First, Petitioner's Specification describes Figures 3 and 4 as follows:

> FIG. 3 is a block diagram showing a method of manufacturing a nonvolatile semiconductor device according to another embodiment. FIGS. 4A to 4H are side cross sectional views showing the method of FIG. 3.[18]

Thus, just as in the previous reason, Petitioner has clearly identified Figures 3 and 4 as being directed to a nonvolatile semiconductor device. Again, while a metal-nitride-oxide-semiconductor (MNOS) device is one type of nonvolatile semiconductor device, the Specification never limits the embodiments described to such a narrow subset of possible nonvolatile semiconductor devices.

Second, Petitioner's written description of the embodiment shown in FIGS. 3 and 4A-4H never mentions an MNOS.[19] Because the description of the second embodiment never mentions an "MNOS" the second embodiment cannot be restricted to an MNOS.

Reason 4: Species III is drawn to a method of making a SONOS device, and is illustrated in Figures 7 and 8.

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[17] See *Ibid.*, Page 9, Line 1 to Page 10, Line 9, which includes the entire description of alleged Species I. The term EEPROM does not exist in the text.
[18] *Ibid.*, Page 8, Lines 10-12.
[19] See *Ibid.*, Page 9, Line 1 to Page 10, Line 9, which includes the entire description of alleged Species I. The term MNOS does not exist in the text.

Petitioner has assumed this reason is an error as (1) Figure 7 cannot show any of Petitioner's embodiments as it is directed to a conventional method (i.e., Figure 7 shows the Background Art) described at length in the Background of the Invention and (2) Petitioner's Specification does not include or refer to a Figure 8.

Thus, because all of the reasons relied upon to establish the election of species requirement appear based on an improper reading of Petitioner's Specification, contradict the express teachings of Petitioner's Specification, or are erroneous, Petitioner submits that the above grounds are not sufficient to meet the burden of prosecution.

2. Claims 7 and 12-20 are readable on the alleged Species I.

In support of this argument, Petitioner submits herewith the table set forth Appendix A. This table shows how claims 7-9 and 12-20 are clearly readable on alleged Species I. The table is believed to be self-explanatory, showing how each claim term can be read on the description for alleged Species I.

The information of this table was previously entered into the record as part of Petitioner's response to the first office action on the merits.[20]

[20] See Petitioner's Response to Office Action, dated 2/4/2003, Page 5, Line 15 to Page 8, Line 5.

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Summary

For all of the above reasons, Petitioner believes that a burden of prosecution exists for an election of species requirement, and that this necessary burden has not been met in this case.

Alternatively, even if the burden as been met, Petition believes claims 7 and 12-20 are readable on the currently elected species, and hence exclusion of these claims from examination on the merits is improper.

For all of these reasons, the restriction requirement is improper and should be withdrawn. In addition or alternatively, claims 7 and 12-20 should be reinstated for examination on the merits. Such action is respectfully requested.

Respectfully Submitted,
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July 22, 2003
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APPENDIX A

Table Showing Where Claims 7-9 and 12-20
Read on Alleged Species I

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Claim Number	Claim Term	Where claim term reads on the Alleged Species I
7	form a SONOS-type device	these layers may be used to form a SONOS-type nonvolatile storage device... (Specification, Page 8, Lines 21-22).
8	forming a tunnel dielectric	includes a tunneling dielectric **204**... A tunneling dielectric may be formed.... (Specification, Page 8, Lines 7-11).
8	the insulating layer being a charge storing dielectric	includes... a charge storing dielectric **206**... A charge storing dielectric may be formed by.... (Specification, Page 8, Lines 7-12).
9	forming a tunnel dielectric	includes a tunneling dielectric **204**... A tunneling dielectric may be formed.... (Specification, Page 8, Lines 7-11).
9	the insulating layer being a charge storing dielectric	includes... a charge storing dielectric **206**... A charge storing dielectric may be formed by.... (Specification, Page 8, Lines 7-12).
12	forming a bottom dielectric	includes a tunneling dielectric **204**... A tunneling dielectric may be formed.... (Specification, Page 8, Lines 7-11).
12	forming a middle dielectric	includes... a charge storing dielectric **206**... A charge storing dielectric may be formed by.... (Specification, Page 8, Lines 7-12).
12	forming a top dielectric... heating substrate to less than about 1200°C for less than 2 minutes	an oxide layer **208** is thermally grown... at temperatures in the range of 900°C to 1100°C... may be formed in about one minute... (Specification, Page 9, Lines 16-19).
13	reacting hydrogen and oxygen	reacting hydrogen and oxygen (Specification, Page 9, Line 17).
14	layer selected from... silicon nitride, silicon oxynitride, and silicon rich silicon nitride	...a charge storing dielectric may include silicon nitride, silicon oxynitride, and/or silicon rich silicon nitride, as but a few examples (Specification, Page 9, Lines 9-10).
15	top dielectric... less than 50 angstroms	...about 30-40 angstroms thick (Specification, Page 9, Lines 19-20).

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Claim Number	Claim Term	Where claim term reads on the Alleged Species I
16	oxidizing charge storing dielectric	an oxide layer **208** is thermally grown from charge storing dielectric layer **206**. (Specification, Page 9, Lines 16-17).
16	comprising at least one layer that includes silicon and nitrogen...	...a charge storing dielectric may include silicon nitride, silicon oxynitride, and/or silicon rich silicon nitride, as but a few examples (Specification, Page 9, Lines 9-10).
16	by reacting hydrogen and oxygen to form a top oxide layer...	reacting hydrogen and oxygen... (Specification, Page 9, Line 17).
17	oxidizing lasts for less than 2 minutes	an oxide layer **208** ... may be formed in about one minute... (Specification, Page 9, Lines 16-19)
18	oxidizing occurs at a temperature of less than 1200°C	an oxide layer **208** is thermally grown... at temperatures in the range of 900°C to 1100°C... (Specification, Page 9, Lines 16-19).
19	a tunnel dielectric below the charge storing dielectric	includes a tunneling dielectric **204**... A tunneling dielectric may be formed.... (Specification, Page 8, Lines 7-11).
19	forming a conductive gate layer over the top oxide layer	depositing a conductive gate layer.... (Specification, Page 10, Lines 3-4).
19	patterning at least the top oxide layer and charge storing dielectric to form a gate stack	these layers may be used to form a SONOS-type nonvolatile storage device... (Specification, Page 8, Lines 21-22).
20	the top dielectric has a thickness greater than 20 angstroms...	...about 30-40 angstroms thick (Specification, Page 9, Lines 19-20).

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